

Claims

1. A method for processing a nucleic acid sample contained in a liquid, said method comprising

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(a) introducing said sample into a chamber of a cartridge which contains a chip shaped carrier having an active surface which carries an array of oligonucleotides, said active surface facing an inner surface of a wall of said cartridge,

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said chamber having a narrow interior and including a channel, a portion of said channel lying between said active surface of said chip shaped carrier and the inner surface of said wall,

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a rigid segment of said wall being adapted to be swung about a predetermined angle back and forth about a torsion bar, swinging of said rigid segment in one sense moving one end thereof towards said active surface, and swinging of the rigid segment in an opposite sense moving said one end of the rigid segment away from said active surface,

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(b) positioning said cartridge into a cartridge holder which holds said cartridge, said positioning being effected before or after introduction of said sample into said chamber, and

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(c) swinging said rigid segment of said wall about said predetermined angle back and forth about said torsion bar in order to cause relative motion of the liquid sample contained in said channel with respect to said active surface of said chip shaped carrier.

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2. A system for processing a nucleic acid sample contained in a liquid, said system comprising

(a) a cartridge for processing a liquid nucleic acid sample, said cartridge including

(a.1) a chip shaped carrier having an active surface which carries an array of oligonucleotides, said active surface facing an inner surface of a wall of said cartridge,

(a.2) a chamber having a narrow interior and including a channel, a portion of said channel lying between said active surface of said chip shaped carrier and the inner surface of said wall, and

(a.3) a rigid segment of said wall being adapted to be swung about a predetermined angle back and forth about a torsion bar, swinging of the rigid segment in one sense moving one end thereof towards said active surface, and swinging of the rigid segment in an opposite sense moving said one end of the rigid segment away from said active surface,

(b) a cartridge holder which is adapted to hold said cartridge in such a way that said active surface of said chip shaped carrier lies in a substantially vertical plane, and

(c) means for swinging said rigid segment of said wall of said predetermined angle back and forth about said torsion bar in order to cause relative motion of the liquid contained in said channel with respect to said active surface of said chip shaped carrier.

3. A system according to claim 2, wherein the cartridge is held by the cartridge holder in such a way that said active surface of said chip shaped carrier lies in a substantially vertical plane.

4. A cartridge for processing a nucleic acid sample contained in a liquid, said cartridge comprising

(a) a chip shaped carrier having an active surface

which carries an array of oligonucleotides, said active surface facing an inner surface of a wall of said cartridge,

(b) a chamber having a narrow interior and including a
5 channel, a portion of said channel lying between said active surface of said chip shaped carrier and the inner surface of said wall, and

(c) a rigid segment of said wall being adapted to be
10 swung about a predetermined angle back and forth about a torsion bar, swinging of said rigid segment in one sense moving one end thereof towards said active surface, and swinging of said rigid segment in the opposite sense moving
15 said one end of said rigid segment away from said active surface.

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